

activities and the land to be used are so uncertain and obscure that I am unable to make any real assessment of its impact. No evidence was called from the author of the EIS to support its conclusions or recommendations. I found expert evidence called by the developer contradictory and unconvincing. Opinions in the main were formed without any real experience or understanding of all of the processes involved, or without any attempt to make a proper assessment. In all of the circumstances this Court could not make a determination of the application according to law otherwise than by refusal, and therefore the only appropriate order is that the appeal be upheld."

While I can understand the chariness of scientists to become immersed in EIA procedures I urge them to participate in the

process. Playing their part can only improve the quality of decision-making and help to sustain our environmental values. Indeed, I would go so far as to say that they have a positive duty to contribute. As Professor Harry Recher⁽³⁾ recently said:

"Courts that deal with environmental issues require ecological data and they require the interpretation of those data by ecologists."

REFERENCES

- ⁽¹⁾FAIRWEATHER, P., 1992. Problems in, and suggestions for improving the use of science in environmental impact assessment. *Australian Biologist* 5(2): 112.
- ⁽²⁾FOX, M., 1992. Adequacy and relevance of description of the natural environment in environmental impact statements. *Australian Biologist* 5(2): 113.
- ⁽³⁾RECHER, H., 1992. Ecology on Trial. Pp. 25-34 in *Zoology in Court* ed by D. Lunney. Royal Zoological Society of NSW, Mosman, NSW.

Simple journalists or simple scientists?: are environmental issues too complex for the media?

Harry F. Recher

Department of Ecosystem Management, The University of New England, Armidale, NSW 2351

(This paper was delivered to a conference entitled "Reporting the Environment", organized by the Centre of Independent Journalism on September 30, 1992 held at the Mitchell Library, Sydney.)

INTRODUCTION

Despite the recession, the environment is a major concern of Australians. Only unemployment is considered more important in the short-term, while the health of the environment dominates such traditionally important issues as the economy, education and welfare in people's perception of their long-term well-being. It is evident that concern for the way we use and manage our natural resources as well as our awareness of environmental degradation and the need for more effective conservation programmes has been incorporated into the way society functions. The issues will change, but the environment will remain on the political and social agenda through this decade and well into the 21st century.

Although there was concern about water pollution, the destruction of forests, soil erosion, and the loss of wildlife early in the 19th century, the public perception of environmental degradation and concern for our environmental future is relatively new. I like to

think that it dates to the publication of Rachel Carson's *Silent Spring* in 1961 that brought pollution into the backyards and kitchens of Americans, but its development and growth as a political and social force for change is a product of the media and the advent of mass communication.

Ironically the reporting of environmental events by the media and the popularity of natural history programmes has fostered the development of an environmental ethic in an increasingly urbanized world where decreasing numbers of people ever come into direct contact with natural environments. Although there have been a few key and high profile players such as David Attenborough, Rachel Carson, Paul Ehrlich, and David Suzuki, most of the credit for the development of a public awareness of the environment belongs to the journalists who daily investigate and report on local, regional, national and global environmental events. In my view they have achieved a great deal.

Interviews and Journalists

It is not uncommon for scientists to be critical of the way environmental issues are reported in the media. It is also not uncommon for scientists to be critical of the way they were interviewed by a journalist and the way the interview was reported or edited. My own experiences with interviews to the press, radio or television are different. I have found that:

- Almost all journalists quickly grasp and can understand a scientific explanation of environmental problems. If these problems arise, it is invariably because the reporter is inexperienced and a bit of patience on my part is required.
- Almost invariably the interview is reported accurately, albeit in a simple format. Recorded interviews have been edited kindly to delete my indiscretions and to highlight certain points. Simplicity and highlighting may focus on the more sensational, but this is necessary to command attention and it does put a message across.

The presentation of environmental events in simple English has been and will remain fundamental to the development of an environmental ethic and to the understanding of environmental issues by the public. Most people have not been trained in the sciences and only a minority have tertiary education. Simple English, clear expression and a brief message are the hallmarks of effective science and environmental communication with the lay public.

None of this is to say that problems with environmental reporting do not exist or that journalists could not do a better job. As part of our programme in resource management at the University of New England, Armidale, we expect our first year students to analyse the reporting of resource management and environmental issues by the major daily papers. This helps students to get into the habit of reading the papers, to become familiar with the kinds of issues that the media is reporting, and to develop their analytical skills. They are asked to quantify the presentation of environmental events so they can address questions of accuracy of reporting, bias and detail. Are the most important issues covered by the media? Is equal coverage given of events in the cities and country areas? Do papers differ in editorial comments?

Students identify the following as matters of concern or ways that would improve environmental reporting by the media:

- *lack of depth* — more facts are needed and could be presented without confusing readers. As the public becomes better educated and more aware of environmental problems, the media needs to respond by giving more in-depth information.
- *the coverage of environmental problems is parochial* — the major daily papers should report on important resource management issues and environmental problems in other states and cities even though they may be more local than national in interest. All environmental problems are symptoms of more fundamental national and global problems and it assists in developing solutions and finding the political will to resolve problems for the public to understand the full scope of issues facing the nation.
- *issues are not followed up* — that is, an issue is reported when it first appears, but, as its impact on readership's wanes, it is difficult to find it reported even though the problem remains. The classic example is beach pollution, a problem that is present throughout the year, but is news only in summer when people want to go boating or swimming. Exceptions to this are the thinning of the ozone layer and the greenhouse effect, both of which are monitored closely by the press.
- *important issues receive poor coverage* — opinions will differ on what is important or not important, but too frequently the issues that are reported are those that are emotive (e.g., hunting kangaroos), dramatic (e.g., bush fires), and visually provocative (e.g., logging blockades) and not necessarily of long-term significance. Less dramatic and more complex issues, such as land degradation and over-exploitation of fisheries, receive relatively little attention despite their long-term significance to the economy and the well-being of people.

If these are real problems, they arise primarily because articles are written and stories broadcast to sell a product be it a newspaper or a television station. *Perhaps the media needs to acknowledge its important role in education and devote more effort to in-depth coverage and analysis of environmental issues.*
- *bias in reporting* — some media accounts of environmental problems reflect the interests and prejudices of the reporter. There was probably no greater master of this art than the late Peter Hunt of *Earthworm* fame. Peter had all the talents of a skilled barrister in selecting "witnesses" and asking precisely

the questions needed to obtain the answers he wanted. A few print journalists have these same talents. The converse also occurs and some people are very adept at using the media to promote their views and opinions when interviewed. Learning to use the media is a skill I urge all my students to master.

Manipulation of the facts is done by both sides in environmental disputes and the most conspicuous distortions of the truth appear in editorials and articles written by columnists. These are the journalists who represent the established order; the status quo. The usual slant in their editorials or columns is to reject environmental problems as being important or even as being real. In one column rejecting the notion of land degradation in Australia as a serious concern of the nation, the author went so far as to claim that after 40 years of farming on his family property there was more soil than when they started. Greenies (a derisory term applied to people who profess a concern for the future) are regularly abused as emotional, anti-development, unconcerned about people, distorters of the truth, uninformed and wrong (inaccurate or selective use of facts). Invariably these attacks come from journalists and editors representing people who are obsessive about profits, development (in a material sense), and resource exploitation. They reject concern for the environment not because they are not aware of the problems or fail to understand the risks, but because concern for the future of national and global environments challenges the fundamental tenants of a growth economy predicated on material wealth and short-term profits.

The fact that the Australian public ranks the environment as a long-term concern illustrates how out of step these people are with the emerging environmental ethic and why their attacks are so virulent. The few with the least to lose are determined to dominate and degrade the majority with most to lose. That is, those who may only lose material goods or profits are prepared to sacrifice the health and environmental well-being of others to maintain their positions of material wealth and power.

Simple Scientists

Although it is easy to find fault with environmental reporting, as my students have shown, it does not appear to me that it is primarily the fault of journalists. Consider the criticisms of environmental reporting by scientists:

- *issues are sensationalized* — there is little question that this occurs and the furor over the greenhouse effect in 1988 is an example.

- *inaccurate or misleading information is presented* — a report may be misleading because not all the facts are presented.
- *complex issues are simplified* — the *ifs, ands and buts* of the scientist may be deleted and jargon is translated into everyday words.

These are criticisms I hear most frequently from other scientists. Typically the complaint by my aggrieved colleague is phrased in the following ways;

"I didn't say that!"

"The reporter didn't understand (or was incapable of understanding) what I said."

"There is more to the story!"

"The person quoted doesn't know anything about the subject."

and so on.

These may be and sometimes are valid criticisms, but we need to consider how the problems arose in the first place. Why didn't the reporter understand or get it right? Why wasn't all the information presented? Why were the words (the jargon) of the scientist changed? and, most importantly, why weren't the best authorities (those who are supposed to be best informed) consulted or quoted?

These complaints arise because remarkably few scientists make an effort to communicate with the media or with the lay public. When some do try, they are unable to put their message in a form that is easy to understand. Thus, I identify two issues:

- *The first* is the failure (the unwillingness) of scientists to communicate the results of research directly to the public. The way to do this, of course, is through the media in the broadest sense and not just via elite science programmes geared to an educated audience.
- *The second* is the inability of most scientists to communicate in simple language; many cannot communicate at all. I reject the notion that science, including environmental issues, can only be described using a specialized jargon. *A Natural Legacy: Ecology in Australia*, an ecology text that I edited with Dan Lunney and Irina Dunn, manages to present the entire field of ecology without resort to either jargon or esoteric mathematics. It is easy to understand and a pleasure to read. All science can be presented in the same way.

There are separate, but overlapping reasons why most scientists are unwilling or cannot communicate. Howard Latin, an American

Fulbright Scholar from Rutgers University School of Law, lists six reasons why "... scientific attitudes may be inappropriate and even harmful to conservation efforts." The reasons identified by Latin as the bases of the problems that scientists have in communication are, in an abbreviated form:

- "Scientists suspend judgement when faced by uncertainty"
- "Scientists usually require a high degree of confidence, 90 or 95 per cent, before research findings will be accepted as ... reliable."
- "Scientists ... prefer more data to less."
- "... one dominant goal [of science], improved knowledge, is almost universally accepted."
- Scientists generally reserve their greatest respect ... for original conceptualizations ..., while ... applied research receives little prestige."
- "Scientists reject conclusions based on emotion, moral judgements, and social or aesthetic values ..."

(Latin 1992, unpublished abstract *How Scientists Can Help Conserve Coral Reefs*).

Constrained in these ways, it is almost impossible to communicate in simple language or to comment on environmental issues when the experiment (total human domination of the planet) hasn't been completed. There are three other reasons why scientists have difficulty in communicating and why, therefore, the media don't always receive all the facts or have access to the best and/or most authoritative sources. The reasons are:

- Many Australian scientists are prevented from speaking publicly or with media by restrictions imposed by their employers (mostly government departments or agencies). Others are afraid that their public comments will affect their careers, jeopardize research funds or lead to restrictions on their research (e.g., obtaining permits to work in particular areas). These concerns are especially apt in the context of the environmental debate where many issues are emotional and have political and economic implications.

Careers may be affected not only by employers failing to grant advancement, but by the adverse response of other scientists who see public comment as irrelevant and unscientific. More senior colleagues may actively discourage younger people from becoming involved in environmental issues or in communicating with the media (see H. Trinca, *The Australian* p. 13, 19 August 1992). Such senior colleagues often sit on

panels that influence everything from employment opportunities and promotions to the receipt of research grants.

The fears are real (see B. Martin 1981, *The Ecologist*, Pp. 33–43) and any Australian scientist who has taken a public position or merely provided information on controversial environmental issues (e.g., forestry, water pollution, mis-uses of agricultural chemicals, environmental threats to human health) has experienced the jibes and retributions of employers and colleagues.

- Articles written for lay people or lectures to public (non-professional) audiences are given little value or weight in decisions about promotions and research support.
- Most scientists who are educated at Australian (or British) universities receive little or no instruction in communication. They enter university with high school level English and verbal skills, and they receive their Ph.D. with about the same level of expression. Along the way they have acquired the language of the field of their speciality and to survive (pass) they use jargon instead of the simple English they are incapable of writing. After all, it is only necessary that they be understood by other specialists in the same field.

What follows, in too human a dimension, is the rejection of anyone not part of the inner circle and who uses the same language. A disdain for communication develops (to the point that few scientists even attend departmental seminars outside their area of specialization) and especially of communicating with the public. They do not know how to communicate, they cannot communicate, and in self-justification they deride the efforts of others and belittle the media.

It also follows, that when they do try to communicate, they cannot explain themselves clearly and succinctly. *They get it wrong*, but it is the journalist or interviewer who is blamed.

- There is also a related problem associated with science education at universities. Not only are young scientists denied the opportunity to develop their communication skills, but they learn little about the society in which they live and work. They take no arts or humanities. There is no training in foreign languages. Nothing is taught about ethics, religion or aesthetics. Science is taught and practised in a vacuum that has no history, no humanity and no

emotion. It is therefore not surprising that so many scientists find it difficult to relate their work to the human community or even to understand that others might be interested in what they are doing. To them giving an interview becomes an ordeal.

Simple journalists or simple scientists?

There is no such thing as an environmental issue too complex for simple journalists; there are only simple scientists who fail to understand the complexity of the media and its responsibility to the public. A responsibility which more scientists should share, if they

want to ensure better and more in-depth reporting of the environment.

ACKNOWLEDGEMENTS

I would like to thank Alan Knight and the Centre for Independent Journalism for the opportunity to attend the conference and participate in lively discussion on the role of the media in reporting the environment. I would also like to thank the many journalists who over the years have given me the opportunity to present my views on the environment to a wider audience than I could ever hope to reach through the pages of learned journals.

VIEWPOINT

The Resource Assessment Commission loses its nerve: the Forest and Timber Inquiry sidesteps an evaluation of the impact of forestry operations on forest fauna

Daniel Lunney

Editor

In its final report of the Forest and Timber Inquiry, in March 1992, the Resource Assessment Commission (RAC) squibbed its responsibility on the issue of the impact of forestry operations on forest fauna. The opportunity and resources to undertake a comprehensive review were available; its failure to do so looks like a loss of courage.

In paragraph 7.29 (p. 160, Vol. 1, RAC 1992), the Commission concluded: "The literature about impacts of human uses of forests is not reviewed here: such a review would need to cover hundreds of Australian references, and thousands of references if the world literature were included. The Inquiry took the view that a comprehensive review of this type would do little to resolve the controversy about forest uses and their impact on forest values."

Given the available time (from the end of 1989 to March 1992) and budget (\$3.41m), (Greg McColl, Acting Chairman, Resource Assessment Commission in "Letters" in the *Sydney Morning Herald*, 6 November, 1992), the task of reviewing hundreds of Australian references on the human impacts on forests was

clearly possible. In fact, both published and unpublished sources were examined. The RAC had given a consultancy to the CSIRO Division of Wildlife and Ecology to undertake a survey of the published literature on the subject, while the unpublished literature was surveyed by the RAC with the assistance of the Department of Conservation and Land Management (CALM) in Western Australia (H.07, Vol. 2A, RAC 1992). The results of these surveys were certainly useful in identifying the size and scope of the research on the human impact on Australian forests, and this was probably the RAC's greatest contribution on the subject.

The RAC states that more than 2 000 published and unpublished scientific papers were identified at the early stages of the survey. Of these, 372 published papers (including 108 on animals) and 168 unpublished papers met the rules for inclusion in the database (H.17, Vol 2A; RAC 1992). Of the published papers, 268 contained new data, and 90 were review papers; of the unpublished papers, 126 contained new data and 42 were review papers (H.18, Vol. 2A, RAC 1992). (Subsequent to the issue of its final report in March 1992, the RAC